

Watergardens



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Watergardening Success

Over the past decade or so, watergardens and backyard water features have exploded in popularity. Just look through your neighborhood to see how many of your neighbors have some sort of man-made backyard water feature or watergarden. The growing popularity is also evident in the number of products and publications available on the topic of watergardening. You don't have to look far to find information and products to purchase to build your own or have someone design and install your water feature or watergarden. However, finding trustworthy and sound advice and information is not always as easy.

With any fast growing industry, there is bound to be lots of people and companies trying to jump on board with the new craze to make a quick buck. It is essential when deciding on a watergarden installation that you talk to someone knowledgeable and experienced. Try to find someone to help that has been in the business for awhile and has done many installations over several years. Most water features look great the first week

they are installed, but make sure you see how they look after a few months or years to make sure the construction is sound.

Basic Watergarden Design and Installation

As we touched on above, there are many different watergarden products and pond kits on the market. Each has its own unique characteristics and something that sets those products apart from the others available. However, each pond kit or watergarden set up has generally, the same types of components.

Before you start, you need to plan out your water feature. Decide the shape, size, depth, and configuration of the watergarden. Most suppliers of the equipment can assist in the planning of the watergarden. It is important to include elevation change because you will need to move water and water will run down hill. Typically, most watergardens will have a pump that will push water over a waterfall or down a cascading stream into the main pond area. At the low end of the pond area there will be a skimmer and filter. The water that goes through the skimmer and filter will then be piped back to the pump to start the cycle over again.

Once you have the watergarden designed, you need to dig the hole for the watergarden, install the plumbing for the pumps and filters, and line the pond area. Since most water features will use a waterfall or cascading stream, the pump and bulk head is installed on the uphill side of the area. The pump will push the water over the falls or down the stream. It is again important to choose a quality pump that is sized correctly for your size water feature and make sure the pump and bulk head is installed correctly to operate properly. Larger water features may use more than one pump and bulk head set up.

When the water flows over the falls or down the stream, it will pool in the main pond area of the watergarden. At the low end of the water feature, you will need to install a skimmer and filter set up that is sized correctly for your size watergarden. Larger water features may need more than one set up. The water will flow into the skimmer and then pass through the filter. The filter can have a few different compartments to take out the larger debris first, and then smaller debris, then a bacteria area that will help remove waste and nutrients from the water. The pump that is in the bulk head at the top end of the pond has plumbing connecting it to the filter so the clean water is then pulled up to the top of the pond and the cycle starts over again.

The watergarden will have a liner that can be of a few different materials and some work better than others in different situations. The liner pricing also varies greatly so talk to someone with experience before deciding on the type of liner. Typically a watergarden is small enough that a single piece of liner is used so you don't have to worry about seams or splicing.

Once you are happy with the design and installation of the equipment and it follows the plans worked on with professional, you can add rocks or whatever you chose to decorate the bottom and sides of the watergarden. Be careful around the liner area. Finally, you can add the water and plants if desired.

Algae Problems in Watergardens

As discussed above, a new watergarden installation will look good. The water is fresh and there are little nutrients on the pond bottom or in the water. The water will be clear and look beautiful right away. However, after a couple weeks, especially if you add fish, the nutrients in the water will start to add up. With the added nutrients will come increased aquatic plant growth. As discussed in the Nutrient Solutions page, an

abundance of nutrients leads to an abundance of algae. Most watergardens will have some nice decorative plants along the sides and inside the pond. Most problems with the watergardens are from algae growth.

A watergarden will typically start to grow planktonic and filamentous algae. Algae is discussed in greater detail on the Algae Solutions page, but we will touch on it here. Planktonic algae is microscopic and will typically turn your water green, but it is difficult to see the actual algae cells. Filamentous algae form large mats or strings that cling to the sides of the ponds and rocks. Algae can quickly turn a beautiful watergarden into a green nightmare.

Why Watergardens are Easier to Treat

There is good news about your algae problem in your watergarden, however. You have a few factors working to your advantage when it comes to watergarden algae problems when compared to larger pond or lake problems.

As stated above, the watergarden industry is very large and growing every year. With this growth, there are a lot of companies out there researching, designing, and selling products to make your watergarden more beautiful and easier to care for. Therefore, there are a lot of products available for algae control available on the market.

The second advantage is that the watergarden is basically a closed system. You may have to add water over time and you will always have rain water entering, but basically you have a set amount of water in your water feature. This makes it much easier to treat. You are able to figure dosages better because you know the exact gallons of water, you know the exact depth, and you know the exact surface area. For the most part, you know what is being added to the pond (fish food, dyes, other chemicals, etc.) and you know what amounts those are being added.

Finally, the overall size of a watergarden makes it a much easier task to treat and much more reasonable in price. It is physically easier to apply a treatment to a 15x15 watergarden than a 10 acre lake. Also, being much smaller in size makes it more economical to treat. There are a lot of algae treatment products that are excellent for controlling algae growth, but the price is too high to treat a larger pond or lake. However, they are designed to treat a watergarden and are better suited for that application.

Popular Treatments

There are several treatments for algae problems and growth, and as like many things, some ways work better in different situations. You can see a more extensive list of treatments on the Algae Solutions page, but listed below are a few commonly used applications specifically for watergardens.

Skimmers & Filters - Your watergarden is already set up with these. The skimmer will take in the water and some algae, mostly the planktonic variety. As it passes through the filter, some algae will get trapped and when you clean the filter, you will remove the algae.

Bacteria & Enzymes - Most filters will use a bacteria medium to grow the beneficial bacteria. The bacteria are there to use up the nutrients in the water and get rid of the waste produced by fish and other organisms in your pond. Make sure you check the application rates suggested for your size filter and pond before adding more.

UV Sterilizers - The UV Sterilizers use a wavelength of light to zap planktonic algae. As the water passes by the light, the algae is killed. This type of treatment works well for planktonic algae, but will do nothing for filamentous because the algae needs to pass by the light. There are several models and sizes available, so make sure you choose the right size for your size pond.

Barley Straw - The barley straw aids in balancing the water quality by lowering the pH and carbonate hardness, which tries to control the growth rate of certain undesirable algae. As the barley degrades in the presence of water and sunlight, it creates peroxide which can kill both filamentous and planktonic algae. This type of treatment works better as a deterrent than as a cure for an existing problem. It does not have EPA approval for algae control, however.

Peroxides - Granular based peroxides are fast acting contact algaecides. Green Clean is one of these products that have organic approval. It bubbles as it oxidizes similar to medical grade hydrogen peroxide. The byproduct is oxygen which is needed for your pond anyway. The remaining dead filaments and cellulose must be taken out of the water or it will settle back to the bottom of the pond. This is one of those treatments that is not economically feasible for larger ponds (unless used for spot treatment), but is excellent for watergarden applications.

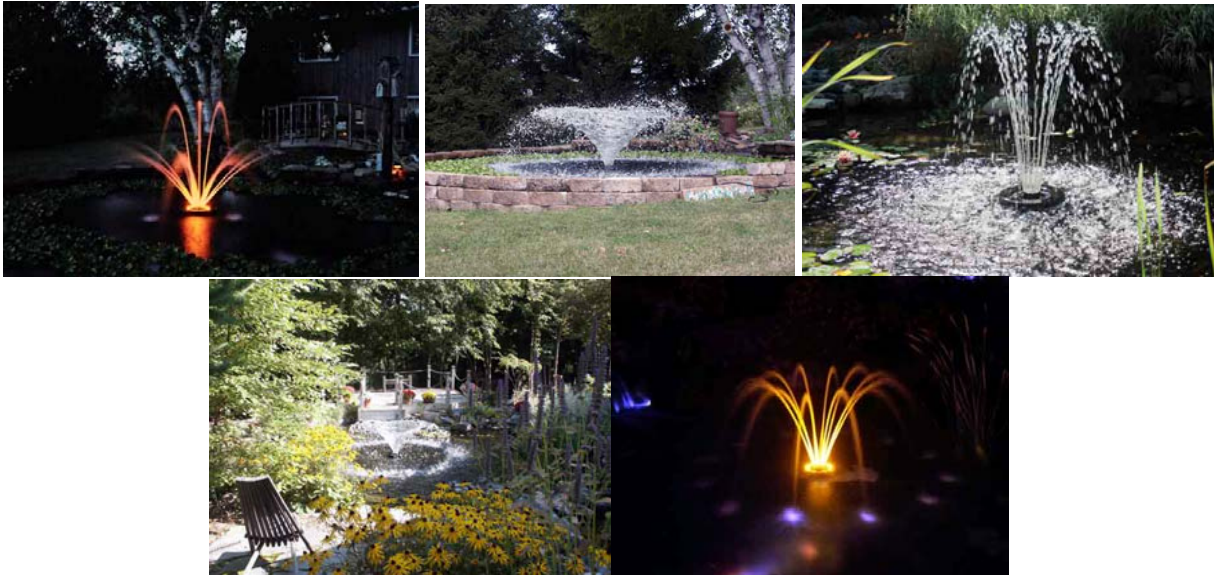
Dyes - Dyes are available in blue or black and in powder or liquid form. They act to shade the water and reduce sunlight penetration. The decreased sunlight causes the algae to die and helps prevent growth to begin with. Aquashade is the only EPA registered product for weed and algae prevention, but most other similar products work, as well.

Benefits of Aeration

Once you have your watergarden designed, installed, and operating, it is important to maintain the health of the watergarden. As discussed in greater detail in the Aeration page, adding oxygen to your pond or watergarden is essential to a healthy ecosystem. Oxygen is required for fish survival, decomposition of organic matter, the bacteria in your filter system, and to balance the water quality.

Since most watergardens include some sort of waterfall or cascading stream, the watergarden is already getting some aeration. As the water falls and splashes, it is exposed to the air and oxygen can be absorbed into the water and carbon dioxide can be released into the air. This also can occur in the filter area where the water is broken up as it passes through the filter.

However, in larger water features, watergardens that do not have much flow or drop of water, or in systems that have a higher than usual need for oxygen (lots of fish), supplemental aeration is often needed. A Kasco Pond Aerator is very efficient at adding oxygen and water movement, but does not create a display and may be too large for a watergarden application. Watergardens are designed and installed to add beauty, so typically the best bet for supplemental aeration is to use an Aerating Fountain. Kasco's 1400JFL, 1/4hp Aerating Fountain is perfect for this application. The new 1/4hp, 1400JFL is specifically designed for watergardens, water features, and small ponds. This floating fountain includes 5 interchangeable nozzles for multiple display patterns (as seen below), lights, and a control box to operate the fountain. It will add beauty with the display and be a great source for aeration in your watergarden. It can successfully aerate a pond up to 1/5 acre in size!



As with many things, aeration is one piece of the puzzle to a healthy and beautiful watergarden, but it is an essential piece. Remember that any new installation of a watergarden should look beautiful, but it takes work to keep it that way. Using an algae treatment along with aeration will help your watergarden look its best for a long time.



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